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EXAMINER	
NATNAEL, PAULOS M	

ART UNIT	PAPER NUMBER
2614	

DATE MAILED: 10/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/982,128	SULLIVAN, GARY J.	
	Examiner	Art Unit	
	Paulos M. Natnael	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 July 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,9,19-22 and 24-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9, 19-22,24-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims **1-3,5,7,9,19-22,24-27,29-31** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kesselring, U.S. Pat. No. **6,081,299** in view of **Yanagihara,** U.S. Pat. No. **5,835,668.**

Considering claim **1**, Kesselring discloses the following claimed subject matter, note;

a) encoding a first frame of data, is met by video encoder 415, fig. 4;

b) generating a first timestamp associated with the first frame of data, wherein the first timestamp includes complete timing information, is met by PTS adjuster 430 (fig.4) that examines the difference between the theoretical PTS 427 and Oscillator clock 440 and outputs adjusted PTS 432 for each frame of data in accordance to the end-of-field (EOF) interrupt signal 416 input to it from the encoder 415. (see disclosure on col. 6, lines 36-40) As to the claimed wherein the first timestamp is a full timestamp, it is implied by the reference of Kesselring.

c) transmitting the first frame of data and the associated first timestamp to a

destination, is met by TSMux 435 Fig.4 which multiplexes the received adjusted PTS 432, video and audio data received from the video and audio encoders, respectively, and transmits the time stamped data to a decoding unit through the multiplexer 115 (Fig.1A).

d) encoding a second frame of data, is met by video encoder 415, fig. 4;

e)generating a second timestamp associated with the second frame of data, wherein the second timestamp includes a portion of the complete timing information..., is also met by PTS adjuster 430 (fig.4) that examines the difference between the theoretical PTS 427 and Oscillator clock 440 and outputs adjusted PTS 432. (Note that Kesselring teaches (see abstract of disclosure, for example) each video frame is stamped with a time stamp. Note also that video is generated and/or displayed, as is well known, frame by frame. So, for each frame there is a timestamp associated with it.)

f) transmitting the second frame of data and the associated second timestamp to the destination, is met by TSMux 435 Fig.4 which multiplexes the received adjusted PTS 432, video and audio data received from the video and audio encoders, respectively.

Except for;

h) <u>wherein the second timestamp is a compressed timestamp;</u>

First, the showing of Kesselring:

Kesselring discloses that MPEG header information is used to specify frame rate and time stamp associated, video and audio data. (col. 2, lines 42 through col. 3, line 20) Kesselring further teaches compressed MPEG data that is decompressed at the receiver end.

The difference

Kesselring does not specifically disclose whether or not the timestamp information itself is compressed timestamp. However, since Kesselring teaches the compressed MPEG data, the header data wherein the time stamp is included would inherently be compressed as well for purposes of bandwidth reduction or similar other reasons, as is well known in the art.

The showing of the Yanagihara

Yanagihara discloses a transmission, recording and reproduction of digital data [in MPEG format] and time information in transport packets using a compression ratio, where "a data packet contain[ing] time information is time compressed and the time information is extracted from the time compressed data packet." (see Abstract and col. 5, lines 4-15)

Therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system of Kesselring by providing the method of the Yanagihara which discloses data (packet) compression in MPEG-2 format compressing the timestamp data, in order to save transmission bandwidth and processing time when

decoding the timestamp information at the receiver end according to the specified MPEG-2 format.

Considering claim **2**, a method as recited in claim 1 further comprising:

a) encoding a third frame of data, *is also met by video encoder 415, fig. 4, which will continue to encode the next frame sequentially.*

b) generating a third timestamp associated with the third frame of data, wherein the third timestamp includes a portion of the complete timing information, is also met by PTS adjuster 430 (fig.4) that examines the difference between the theoretical PTS 427 and Oscillator clock 440 and outputs adjusted PTS 432 for each frame of data in accordance with the EOF interrupt 416 input to it from the encoder 415. (col. 6, lines 36-40)

c) transmitting the third frame of data and the associated third timestamp to the destination, is also met by TSMux 435 Fig.4 which multiplexes the received adjusted PTS 432, video and audio data received from the video and audio encoders, respectively.

Considering claim **3**, a method as recited in claim 1 further comprising:

a) identifying timing information related to transmitting the first and second frames of data, is met by PTS adjuster 430, fig.4.

b) transmitting the timing information to the destination, is also met by PTS adjuster 430 which transmits the timing information adjusted PTS 432 to TSMUX 435, which in turn multiplexes the data and transmits it to decoder.

Considering claim **5**, a method as recited in claim 1 wherein the first timestamp includes an offset value that is used to relate the time associated with a frame of data to true time, is met by the adjusted PTS 432, fig.4;

Considering claim **7**, a method as recited in claim 1 further comprising:

a) encoding a plurality of frames of data, is met by video encoder 415 (fig. 4) which encodes a plurality of frames of data sequentially input to it from the A/D converter 405.

b) generating additional timestamps associated with each of the plurality of frames of data, wherein the majority of the additional timestamps include a portion of the complete timing information, is met by PTS adjuster 430 (fig.4) that examines the difference between the theoretical PTS 427 and Oscillator clock 440 and outputs adjusted PTS 432 for each frame of data in accordance to the EOF interrupt 416 input to it from the encoder 415. (col. 6, lines 36-40)

Considering claim **9**, One or more computer-readable memories containing a computer program that is executable by a processor to perform the method recited in claim 1, is met by the disclosure on col. 5, lines 59 thru col. 6, line 7, that "It will be understood that each block of the flowchart illustrations, and combinations of blocks in the flowchart illustrations, can be implemented by computer program instructions. These program

instructions may be provided to a processor to produce a machine, such that the instructions which execute on the processor create means for implementing the functions specified in the flowchart block or blocks. The computer program instructions may be executed by a processor to cause a series of operational steps to be performed by the processor to produce a computer implemented process such that the instructions which execute on the processor provide steps for implementing the functions specified in the flowchart block or blocks."

Considering claim **19**, a method comprising: receiving a first frame of data; receiving a first timestamp associated with the first frame of data, wherein the first timestamp includes complete timing information for the first frame of data; receiving a second frame of data, receiving a second timestamp associated with the second frame of data, wherein the second timestamp includes a portion of the timing information, and wherein the first timestamp is a full timestamp and the second timestamp is compressed timestamp.

Regarding claim 19, see rejection of claim 1.

Considering claim **20**, a method as recited in claim 19 further comprising decoding the first frame of data and the second frame of data, is met by decoder 135, Fig.1A.

Considering claim **21**, a method as recited in claim 19 further comprising:

a) receiving a third frame of data; b) receiving a third timestamp associated with the third frame of data, wherein the third timestamp includes a portion of the timing information; and decoding the third frame of data.

Regarding claim 21, see rejection of claim 19.

Considering claim **22**, a method as recited in claim 19 further comprising receiving timing information related to the manner in which frames of data are transmitted from a data source, is met by Decoder 135, fig.1A;

Considering claim **24**, a method as recited in claim 19 wherein receiving the first timestamp includes updating all timing parameters with the information contained in the first timestamp, is implied in that when a timestamp information is received it would replace or update the timing information of the timestamp received earlier, since the received timestamp is replacing the previous one.

Considering claim **25**, a method as recited in claim 19 wherein receiving the second timestamp includes updating timing parameters with the information contained in the second timestamp.

See rejection of claim 24.

Considering claim **26**, one or more computer-readable memories containing a computer program that is executable by a processor to perform the method recited in claim 19.

Regarding claim 26, see rejection of claim 9.

Considering claim **27**, One or more computer-readable media having stored thereon a computer program that, when executed by one or more processors, causes the one or more processors to: Encode a first frame of data; generate a first timestamp associated with the first frame of data, wherein the first timestamp includes complete time information; encode a plurality of subsequent frames of data; and generate a plurality of subsequent timestamps, wherein each of the subsequent timestamps includes a portion of the time information, and wherein the first timestamp is a full timestamp and the plurality of subsequent timestamp are compressed timestamp.

Regarding claim 27, see rejection of claim 1.

Considering claim **29**, one or more computer-readable media as recited in claim 27 wherein each of the subsequent timestamps includes a frame number.

Regarding claim 29, see rejection of claim 9.

Considering claim **30**, an apparatus comprising:

a) an encoded multimedia content source, is met by encoder 100,fig.1A.

b)a decoder coupled to receive encoded multimedia content from the encoded multimedia content source, wherein the video content includes a first frame of data having an associated first timestamp, such that the first timestamp includes complete timing information for the first frame of data, and wherein the encoded multimedia

content includes a second frame of data having an associated second timestamp, such that the second timestamp includes a subset of the timing information included in the first timestamp..., is met by decoder 135 Fig.1A, that receives frames of video data and PTS information from the encoder 100 through the connection 120, Figs. 1A and 4.

As for the claimed limitation, wherein the first timestamp is a full timestamp and the second timestamp is compressed timestamp, see rejection of claim 1;

Considering claim **31**, an apparatus as recited in claim 30 wherein the decoder is configured to decode the first frame of data and the second frame of data, is met by decoder 135 (fig.1A) which is capable of decoding sequentially received of encoded video and PTS information..

3. Claims **4, 6, 28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kesselring and Yanagihara, as applied to claims 1-3 above, and further in view of Higurashi U.S. Pat. No. 5,970,668.

Considering claim **4**, a method as recited in claim 1 wherein the first timestamp includes hour information, minute information, second information, and a frame number.

Regarding claim 4, Kesselring as modified above discloses that MPEG header information is used to specify frame rate and time stamp associated, video and audio data. (col. 2, lines 45-49)

The difference

Kesselring does not specifically disclose details of the timestamp information. However, it is well known in the art that the timestamp information comprises hour, minute, and second information. It is also well known in the art that time stamp information may be expressed as in "hhmmss" format.

The showing of the Prior Art (Higurashi)

Higurashi discloses a time code data that may be added to the information signal. Fig.4 of Higurashi illustrates the time code data comprising units of frames, units of second, units of minutes, units of hours and units of days.

Therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system of Kesselring by providing the format of Higurashi in the header data, in order that one timestamp would be easily differentiated from another or that more information such as a frame number may be added to a second, different timestamp, so that the digital data is easily distinguishable by the program or software of the system. (see also Kesselring, col. 2, lines 31-41)

Considering claim **6**, a method as recited in claim 1 wherein the second timestamp includes a frame number.

See rejection of claim 4;

Considering claim **28**, one or more computer-readable media as recited in claim 27 wherein the complete time information includes hour information, minute information, second information, and a frame number.

Regarding claim 28, see rejection of claim 4;

Response to Arguments

4. Applicant's arguments filed 7/25/05 have been fully considered but they are not persuasive. Applicant argues that

a) "the Kesselring reference does not disclose or suggest a second timestamp that includes a portion of the complete timing information, as the office argues. In fact the office action does not even specifically address this subject matter..."

b) Thus, it appears that the office action has mischaracterized Kesselring as disclosing a second timestamp.

c) Yanagihara does not disclose or suggest a "compressed timestamp", as understood in the context of Applicant's disclosure. Specifically, Yanagihara discloses a "compressed data packet" that has been "compressed by a predetermined compression ratio" and not "a compressed timestamp that omits a portion of the complete timing information", as claimed.

d) Regarding claim 27, the Kesselring reference does not disclose or suggest "wherein each of the subsequent compressed timestamps that omits a portion of the time

information"...Finally, modifying Kesselring by implementing the compression of Yanagihara would appear to change the principle of operation of Kesselring.

e) Regarding claim 30, the office action has not established a prima facie case of obviousness.... does not even specifically address "the second timestamp is a compressed timestamp that omits a subset of the timing information included in the first timestamp."

Response to argument

a) This is because compression, by definition, makes any data smaller in size or volume i.e. "omits" a portion of the original data in order to make the data smaller in size or volume. (see Merriam Webster's Collegiate Dictionary, 10th edition)

b) This is absolutely not a mischaracterization; Kesselring discloses generating a frame data and timestamp it, then, as is well known in the art, another video frame is generated and it is time stamped, and so on; this process repeats continuously. It is well known in the art that video frames are generated and/or displayed frame by frame. Kesselring clearly teaches that every ***video frame is then stamped with the time stamp. (Abstract)***

c) This argument makes no sense whatsoever! Compressed data packet such as disclosed in Yanagihara as illustrated in Figs. 1A-1D, 11, comprises header data that in turn comprises timestamp information. A timestamp is a header data as clearly taught by Yanagihara on col. 5, lines 4-15 that "compressed data packet which contains time information that had been compressed". It would be clear to the skilled in art that the data packet is compressed data packet and contains time information that has been compressed! As to the limitation including/omitting a portion of the information, it is not given much weight because, as explained above, compression, by definition, is a method of making the data smaller in size or volume. This means the said data contains a smaller portion of the original data or omits a portion of the original data. Thus, the argument is unpersuasive.

d) It is well known in the data/video transmission art to transmit the original data as a whole the first time around and subsequently transmit the difference or a portion of the original data. Yanagihara is used for its teaching of compression timestamp because Kesselring does not specifically use the term compressed timestamp, while Yanagihara as illustrated above does so.

e) see response in part (C).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paulos M. Natnael whose telephone number is (571) 272-7354. The examiner can normally be reached on 10:00am - 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (571)272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Paulos M. Natnael
Primary Examiner
Art Unit 2614

PMN
October 12, 2005